

ATTACHMENT E.1



American Correctional Officer Intelligence Network

Serving America's Corrections Professionals

“Nevada is now poised to house one of the fastest growing prisoner populations in the nation.”

Performance Projections

Public Safety

Pew Charitable Trust

JFA Institute, Feb

2007

- 1 From 2007 – 2012 the US population is expected to grow by 4.5%. Nevada is expecting a growth rate of 14.1%, highest in the nation.
- 2 Nevada incarceration rates are estimated to increase from 540 inmates per 100,000 residents to 640 per 100,000 residents the second largest estimated increase in the United States.
- 3 Nevada realized a 93% increase in the incarceration rate of its residents from 1982 to 2007. With 1.13% of all adults in Nevada incarcerated the state ranks 13th in the nation for incarcerating its citizens. Nevada is a law and order state.

- 4 Overall the western states are expecting the largest increases in prison population with an estimated 18% increase in the number of inmates incarcerated
- 5 We have not found any national studies that are projecting a decline in the inmate population in Nevada. Only four states are anticipating little or no growth, Maryland, New York, Delaware and Connecticut
- 6 "The Nevada estimate issued in March 2005 began to display an underestimate in fall 2005. This was caused by a significant and unexpected surge in new court commitments....."
Underestimating projected growth rates can have devastating consequences throughout the correctional system and reek havoc with correctional budget estimates and subsequent shortfalls
- 7 In Nevada, Texas and Arizona the demographic growth for the highest at-risk members of our society are "...a major concern." It is in these three states where the largest increase in the high-risk population is estimated to occur.
- 8 The ten year projected increase in the prison population for Nevada from 2006 through 2016 is 59.6%: from 12,796 inmates to 21,123. An increase of 7,884 inmates. The five year projection from 2006 to 2011 is 27%, 9th highest in the nation.
- 9 As of 2005 of the 13 western states, Nevada has the second *lowest* annual operating cost per inmate at \$17,676 per year. Only Idaho is lower at \$16,115, the national average cost per inmate is \$23,876. Nevada saves over \$6,200 per year per inmate over the national average.

We are unaware of any estimate that indicate a decline in either the general population of the state of Nevada or the inmate population, indeed the converse is true. With an incarceration rate of 1.13% any increase in the general population will naturally increase the number of inmates. Now consider that the estimated increases in the general population of the state includes a *large proportion of high-risk residents* and that the state is expecting the

largest increase in the general population of any state in the nation, we can reasonably conclude that the chances of the inmate population showing a decline are extremely unlikely if at all.

It would appear that Nevada will always have a disproportionately high-risk population due in part to the nature of many of the industries in the state and a favorable climate that attracts more residents. Even if there are short term temporary dips in these reported estimates the overall projections remain strong.

Prepared by ACOIN
February 2010

Sources: Bureau of Justice Statistics
IEA Institute
Pew Charitable Trust
U.S. Sourcebook of Criminal Justice Statistics

Public Safety, Public Spending

Forecasting America's Prison Population 2007-2011



**Public Safety
Performance**
A Project of The Pew Charitable Trusts

About the Public Safety Performance Project

An operating project of The Pew Charitable Trusts, the Public Safety Performance Project seeks to help states advance fiscally sound, data-driven policies and practices in sentencing and corrections that protect public safety, hold offenders accountable and control corrections costs. The project helps states diagnose the factors driving prison growth and provides policy audits to identify options for reform, drawing on solid research, promising approaches and best practices in other states. The initiative also helps state officials, practitioners and others share state-of-the-art knowledge and ideas through policy forums, public opinion surveys, multi-state meetings, national, regional and state-level convenings, and online information about what works.

The project works closely with the Pew Center on the States (PCS), a division of Pew. By conducting nonpartisan research and analysis, educating the public and federal and state policy makers, bringing together diverse stakeholders, and encouraging pragmatic, consensus-based solutions, PCS identifies and advances effective public policy approaches to critical issues facing states.

About this Report

This report was prepared for the Public Safety Performance Project by the JFA Institute, a well-respected, Washington-based, nonprofit consulting firm. JFA is led by James Austin, Wendy Naro and Tony Fabelo, three nationally renowned researchers with deep expertise in state criminal justice policy and statistics. JFA conducts prison population forecasts under contract with a number of states, and several other states use JFA's software to make their projections.

The report was reviewed by three independent specialists in prison population forecasting:

- William Bales, associate professor, Florida State University, College of Criminology and Criminal

Justice, and former bureau chief of the Bureau of Research and Data Analysis for the Florida Department of Corrections.

- Richard Berk, professor of criminology and statistics, University of Pennsylvania, and former Distinguished Professor of Statistics and Sociology at UCLA.
- Gerald Gaes, visiting scientist at the National Institute of Justice, criminal justice consultant and former director of research for the Federal Bureau of Prisons.

While these experts have screened the report for methodology and accuracy, neither they nor their current or former organizations necessarily endorse its findings or conclusions.

Substantial contributions to the report also were made by the Vera Institute of Justice and the Council of State Governments Justice Center, partners of the Public Safety Performance Project. Staff of both organizations reviewed drafts of the report and offered excellent comments and insights that were instrumental to its completion.

We also would like to thank the 50 state correctional agencies and the federal Bureau of Prisons, which provided much of the data used to create the national forecast and other parts of this report.

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The Pew Charitable Trusts is driven by the power of knowledge to solve today's most challenging problems. Pew applies a rigorous, analytical approach to improve public policy, inform the public and stimulate civic life. We partner with a diverse range of donors, public and private organizations and concerned citizens who share our commitment to fact-based solutions and goal-driven investments to improve society.

Executive Summary

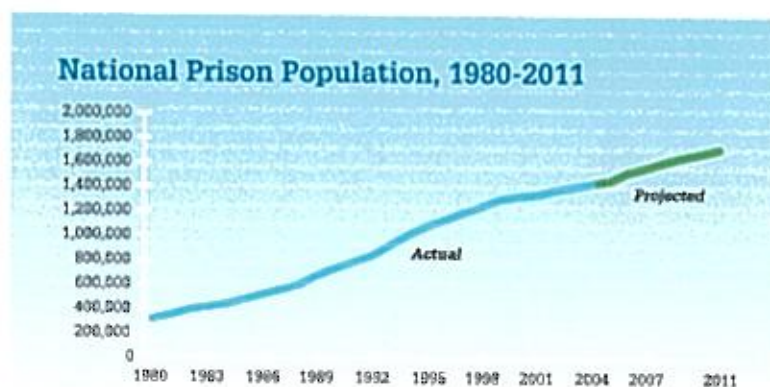
After a 700-percent increase in the U.S. prison population between 1970 and 2005, you'd think the nation would finally have run out of lawbreakers to put behind bars.

But according to *Public Safety, Public Spending: Forecasting America's Prison Population 2007-2011*, a first-of-its-kind projection, state and federal prisons will swell by more than 192,000 inmates over the next five years. This 13-percent jump triples the projected growth of the general U.S. population, and will raise the prison census to a total of more than 1.7 million people. Imprisonment levels are expected to keep rising in all but four states, reaching a national rate of 562 per 100,000, or one of every 178 Americans. If you put them all together in one place, the incarcerated population in just five years will outnumber the residents of Atlanta, Baltimore and Denver combined.

The national price tag is staggering. The projected 192,023 new prisoners—leave aside the current population of more than 1.5 million inmates—could cost as much as \$27.5 billion: potentially a cumulative \$15 billion in new operating costs and \$12.5 billion in new construction costs by 2011. Every additional dollar spent on prisons, of course, is one dollar less that can go to preparing for the next Hurricane Katrina, educating young people, providing health care to the elderly, or repairing roads and bridges.

Don't picture this parade of prisoners as an exclusively male group. Nationwide, men outnumber women behind bars, but women are playing a dubious kind of catch-up here. The number of women prisoners is projected to grow by 16 percent by 2011, while the male population will increase 12 percent. In some states this disparity is particularly striking. Nevada, for example, is projecting a 36-percent increase in female prisoners over the next half-decade.

Gender differences aren't the only area in which trends vary widely among states and regions. Although national prison populations aren't currently growing at the same furious pace as they were a few years back, in some states and regions growth rates remain in crisis mode. Prison populations in the West, Midwest and South are expected to increase



Sources: Bureau of Justice Statistics (historical) and JFA Institute

by double-digit percentages between 2006 and 2011, led by the West with a projected growth rate of 18 percent. The Northeast, with its slow population growth and steady crime rates, will see slower but still costly growth of 7 percent during the same period.

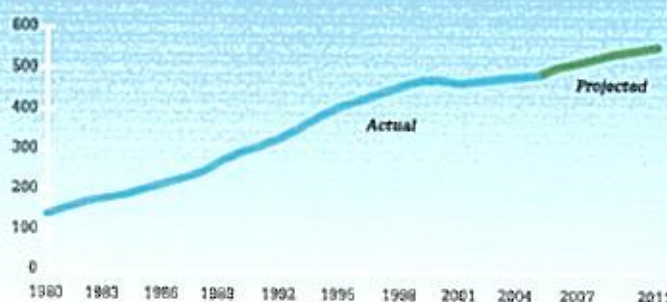
A few other trends add to the image of states' prisons and budgets stretched at the seams:

- Over the next five years, the average inmate will be more likely to be female or elderly—both groups that have special needs and higher costs.
- In some states, corrections officials, already having difficulty hiring and keeping guards on the job, are becoming more and more concerned about finding and retaining qualified personnel to staff new prisons.
- In some states, especially in the West, Midwest and South, methamphetamine cases have become significant contributors to prison growth.
- In the past few years, many states have enacted enhanced penalties for sex crimes. The impact of most of these laws on prison populations and state budgets will be felt beyond the five-year window of this report.

10 Highest-Growth States (by percent increase)

Montana	41%
Arizona	35%
Alaska	34%
Idaho	34%
Vermont	33%
Colorado	31%
Washington	28%
Wyoming	27%
Nevada	27%
Utah	25%

National Prison Incarceration Rate, 1980-2011



Sources: Bureau of Justice Statistics (historical) and JFA Institute

State Highlights

This report provides forecasts for prison populations and incarceration rates for all 50 states. Among its findings:

- By 2011, without changes in sentencing or release policies, Alaska, Arizona, Idaho, Montana and Vermont can expect to see one new prisoner for every three currently in the system.
- Similarly, barring reforms, there will be one new prisoner for every four now in prison in Colorado, Washington, Wyoming, Nevada, Utah and South Dakota.
- Incarceration rates are expected to spike in Arizona and Nevada, from 590 and 540 prisoners per 100,000 residents, respectively, to 747 and 640. Particularly worrisome is the growth in the population of young males, the group at highest risk of criminal activity. Both states have recently increased their prison population forecasts because of the combined impact of demographics and policies that increase prison terms.
- Louisiana, which has the highest incarceration rate among states, with 835 prisoners per 100,000 residents, expects that figure to hit 859 by 2011.
- Florida is anticipated to cross the 100,000-prisoner threshold within the next five

years, the only state other than Texas and California to do so.

- None of the states is projecting an actual decrease in its number of prisoners between 2006 and 2011. The report projects no growth in Connecticut, Delaware and New York.
- The Midwest's prison population continues to rise primarily because of increases in new prison admissions and parole violations. Iowa's prison population is expected to increase at a slower rate than other Midwest states.
- Though the Northeast boasts the lowest incarceration rates, it has the highest costs per prisoner, led by Rhode Island (\$44,860), Massachusetts (\$43,026) and New York (\$42,202). The lowest costs are generally in the South, led by Louisiana (\$13,009), Alabama (\$13,019) and South Carolina (\$13,170).

Driving Forces

Predicting the future is a risky business, of course. In Charles Dickens' *Christmas Carol*, Scrooge asks the last ghost that appears to him, "Are these the shadows of the things that Will be? Or are they shadows of things that May be, only?"

In the world of criminal justice policy, as much as in Dickens' famed tale, nothing is inevitable. The size and attributes of a state's prison population are linked to an array of factors. Population growth and crime rates can be the fuel for this fast-moving train, but the throttle is in the hands of state leaders who make related policy choices. Some of these decisions are made on the basis of careful analysis of facts and history. Others are predicated on anecdote and the impact a single, particularly

heinous crime can have on the public's views about the appropriate punishment for that type of offense and incarceration in general.

The size of a state's prison system is determined by two simple factors: how many people come in and how long they stay. Yet both variables are the products of a dizzying array of influences, from policy-level decisions and the discretion that judges, prosecutors and corrections officials exercise in individual cases, to the larger forces at work in society.

During the past three decades, a number of changes in states' sentencing and corrections policies have been particularly significant. These include movement from indeterminate to determinate sentencing; abolition of parole and adoption of truth-in-sentencing requirements; lower parole grant rates; passage of "three-strikes" laws; and establishment of sentencing guidelines. While the impact of reforms varies in each state, the states report that these policy decisions are among the major drivers of their prison populations.

Implications for Public Safety and Public Policy

It's a tempting leap of logic to assume that the more people behind bars, the less crime there will be. But despite public expectations to the contrary, there is no clear cause and effect. In fact, the question of the effect that imprisonment has on crime rates cannot be solved with simple arithmetic. It requires something more like a social policy calculus.

The central questions are ones of effectiveness and cost. Total national spending on corrections has jumped to more than \$60 billion from just \$9 billion in 1980.

and yet recidivism rates have barely changed. More than half of released prisoners are back behind bars within three years. If states want the best results from their correctional systems over the next five years—both in terms of public safety and public spending—how should they approach the significant prison population growth that is anticipated? That question is the chief challenge states are facing. They are not fated to such high rates of prison growth by factors out of their control. The policy choices they make—the sentencing and release laws, programs and practices they enact and fund—are principal determinates of the size, effectiveness and cost of their corrections systems.

The key is for policy makers to base their decisions on a clear understanding of the costs and benefits of incarceration—and of data-driven, evidence-based alternatives that can preserve public safety while saving much-needed tax dollars. To begin the process of looking at costs and benefits, state policy makers need to know whether, and at what rate, their correctional system is likely to grow, and how their system's growth rate compares to that of other states. By providing this comparative data, this forecast can assist states in their efforts to develop cost-effective options that reduce corrections expenditures while protecting public safety.

Those last two words—public safety—are of particular consequence. No policy maker is likely to (or should) pursue a path that saves prison money if it runs a substantial risk of increasing recidivism or crime rates. On the other hand, an option that can lead to better public safety outcomes while saving money is the picture that goes alongside the dictionary definition of win-win.

Methodology Overview

Forecasting prison populations has grown more sophisticated since the days of estimating using time series or trend analysis, which showed what had already happened but failed to make accurate projections of future patterns. Today's more advanced models are designed to mimic the flow of the correctional system based on probabilities of prison admissions and inmate lengths of stay.

This national prison projection report was generated from data from the states themselves. The federal Bureau of Prisons and 42 states (including the 36 states that use advanced simulation methods) provided their official forecasts to form the basis of this report. Those jurisdictions accounted for 92 percent of the national prison population as of 2005. The remaining eight states were unable to provide projections, so researchers calculated estimates using the states' own most recent monthly population counts and available admission and release data. Those estimates—for Alaska, Connecticut, Delaware, Maine, New York, Utah, Wisconsin and Wyoming—are not official forecasts.

Researchers also contacted each state to obtain the most current costs per prisoner. The cost figures included administrative support, program services and facility maintenance. If a state contracts with a private prison company, researchers attempted to incorporate those into the annual cost figure.

It's important to note that an increase or decrease in a state prison population will not yield a direct change in operating costs. Some states whose prison populations grow by only a small amount will experience only marginal cost increases, such as the costs of medical care and food; they will likely not need to hire additional staff or build new cells. Other states may pass a tipping point and proceed with constructing new prisons and taking on new staff.

It's possible, too, that the projected population may involve disproportionately lower-custody inmates or that a state may employ alternative, lower-cost housing methods and divert some offenders into community punishments. These scenarios would result in an overestimate of future costs if the estimate is made using an average cost per inmate.

Capital costs for corrections are more difficult to project than operating costs. Prison beds cost about \$65,000 to construct, but total construction cost figures exclude renovation and conversion of existing bed space.

For these reasons, the report does not provide cost estimates for each individual state.

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Introduction

This report estimates the future size and cost of the state and federal prison systems. It examines the reasons for the projected growth and, since prison expansion is generally intended to reduce crime, it outlines what we currently know about the relationship between incarceration and crime rates. Finally, the report highlights the efforts of some states to control corrections spending while protecting public safety and holding offenders accountable for their actions.

The past three decades have witnessed an historic increase in the nation's penal system at all levels. In 1970, the state and federal prison population was less than 190,000. The latest report by the U.S. Department of Justice puts the 2005 population at nearly 1.5 million. Further, almost 750,000 people are incarcerated in local jails, resulting in a total incarcerated population of almost 2.2 million, or 737 per 100,000 U.S. population.¹ Put differently, for every 1,000 U.S. residents, seven are incarcerated either in jail or prison on any given day. Each year, over 600,000 people are admitted to state and federal prisons. A much larger number (over 10 million) go to local jails. There are another 4.3 million ex-convicts living in the U.S.²

The U.S. imprisons significantly more people than any other nation. China ranks second, imprisoning 1.5 million of its much larger citizen population. The U.S. also leads the

world in incarceration rates, well above Russia and Cuba, which have the next highest rates of 607 and 487 per 100,000. Western European countries have incarceration rates that range from 78 to 145 per 100,000.³

Probation and parole populations have skyrocketed alongside the rapid growth in the state and federal prison systems. Since 1980, the total correctional population has grown from 1.8 million to over 7 million people (Table 1). While the prison population has grown at the fastest rate, more than 4 million adults are on probation, making that the largest component of the correctional system; it too has nearly tripled since 1980.

While noteworthy in their own right, national trends tend to mask significant state-level variation. This is the case both for incarceration (covering jails and prisons)⁴ and the population under community supervision (including parole and probation). For example, while the national prison incarceration rate in 2005 was 491 per 100,000 residents, Louisiana had the highest prison incarceration rate (797 per 100,000) followed by fellow Southern states Texas (691), Mississippi (660) and Oklahoma (652). Maine had the lowest incarceration rate (144), followed by Minnesota (180), Rhode Island (180) and New Hampshire (192).⁵

While it is generally true that Southern states have high incarceration rates while

At year-end 2005, there were almost 2.2 million people—one in every 136 U.S. residents—in U.S. jails and prisons.

TABLE 1
Adult Correctional Populations, 1980–2005

Population	1980	2005	% Change
Probation	1,118,097	4,162,536	272%
Jail	183,988	747,529	306%
Prison	319,598	1,461,132	357%
Parole	220,438	784,408	255%
Total Adults Under Corrections	1,842,100	7,155,605	288%
Adult Population	162.8 Million	222.3 million	36%
% of Adults Under Corrections	1.1%	3.2%	

Sources: U.S. Department of Justice, Office of Justice Programs. *Prisoners in 2005*, Bureau of Justice Statistics Bulletin, by Paige M. Harrison and Allen J. Beck (Washington, D.C.: November 2006), NCJ 215092; U.S. Department of Justice, Office of Justice Programs. *Prison and Jail Inmates at Midyear 2006*, Bureau of Justice Statistics Bulletin, by Paige M. Harrison and Allen J. Beck (Washington, D.C.: May 2006), NCJ 213133 and U.S. Department of Justice, Office of Justice Programs. *Probation and Parole in the US 2005*, Bureau of Justice Statistics Bulletin, by Lauren E. Glaze and Thomas P. Bonczar (Washington, D.C.: November 2006), NCJ 215091.

Northeastern states have low rates, there is considerable variation even among states from the same region or sharing similar crime rates. For example, North and South Dakota had low but very different incarceration rates in 2005: 208 per 100,000 for North Dakota versus double that—443—for South Dakota. In the South, North Carolina's incarceration rate is 360 while South Carolina's is 525.⁶ As discussed later, these pronounced differences in incarceration rates often reflect different *sentencing laws and correctional policies* that have been adopted by policy makers. In other words, the size and attributes of a state's prison population are heavily determined by policy choices.

In light of that, it would be valuable for policy makers and the public to understand the likely future outcomes in states that have adopted varying policies. While the U.S. Department of Justice provides accurate and comprehensive *historical data* on the size and attributes of the various correctional populations, there is no organization or agency that provides estimates of the *future size* of the

national correctional system. Currently, each state bears responsibility for forecasting its own population. A national forecast such as this will have several important uses.

First, state policy makers need to know how much their correctional system is likely to grow, if at all, so that they at least can ensure that sufficient funds are available to support growth. This is especially true for the jail and prison systems that must maintain standards of care for their prisoners. Second, because differences in population increases often reflect differences in criminal justice policies, understanding such policy differences and their impact on prison populations and costs can help policy makers better evaluate whether they should pursue reforms. Third, given the large and increasing amount of taxpayer funds being devoted to prison systems, policy makers want to ensure that their investments in public safety are generating their intended results. If other states are slowing the growth of their prison populations while achieving better public safety outcomes, such as lower recidivism rates or lower crime rates, policy makers want to know that.

Finally, the costs of constructing and operating jail and prison systems are an ongoing concern for policy makers. Between 1982 and 2003, national spending on criminal justice increased from \$36 billion to \$186 billion. Over \$61 billion of that total is allocated to local, state, and federal corrections.⁷ Indeed, corrections spending—which consists primarily of budgets for jails and prisons—grew by more than 570 percent during that period, faster than any other aspect of the criminal justice system. Given the phenomenal period of growth in correctional populations and its associated costs to the taxpayer, public officials are becoming increasingly concerned about what the costs will look like in the future.

Forecasting Correctional Populations

Estimating the future size of any correctional system is part science and part judgment. Criminal justice policy is a dynamic phenomenon and is difficult to predict with a high degree of certainty. During the past three decades, we have witnessed a wide array of policy shifts in sentencing, including some states abolishing parole, moving from indeterminate to determinate sentencing, establishing sentencing guidelines, and adopting truth-in-sentencing and "three-strikes" laws. Many of these changes were intended to remove repeat offenders from the streets. But as the cost of corrections has skyrocketed, so has interest in finding cost-effective options that could reduce expenditures without jeopardizing public safety.

Identifying these options requires sound research, comprehensive analysis and reliable forecasting techniques to better inform policy makers and the public about the consequences of current and proposed policies. Estimating the future prison population is the beginning of this enterprise, not the end. Decision makers need to understand why prison populations are growing and how future changes will affect the system.

In the simplest terms, prison populations (and all correctional populations) are the result of two factors: the number of people admitted to prison and how long they stay.

The basic formula is:

$$\text{Prison admissions} \times \text{length of stay (LOS)} = \text{Average Daily Population (ADP)}^*$$

This simplistic formula becomes far more complex when one begins to understand the myriad factors that can influence admissions and the LOS. Relatively minor changes in admissions or LOS can have an enormous impact on the ADP. For example, if the LOS in a prison system is 30 months, an increase of three months in the LOS would increase the ADP by 10 percent. Changes in the LOS can be achieved by modifying sentence lengths, awarding or rescinding good time credits, changing parole eligibility dates, and paroling (or not paroling) offenders at either their initial parole date or at a subsequent parole hearing.

Figure 1 illustrates the various internal and external factors that influence ADP and therefore influence a forecast of the future ADPs.

External factors reflect the interplay of demographic, socio-economic and crime trends that produce arrests, and offenders' initial entry into the criminal justice process. Criminologists have long noted that certain segments of the population have higher rates or chances of becoming involved in crime, being arrested and being incarcerated.

Between probation, parole, jail and prison, the U.S. correctional population exceeds 7 million people. One in every 32 U.S. adult residents is currently under correctional supervision.

FIGURE 1
Schematic Flow of Prison Population Components

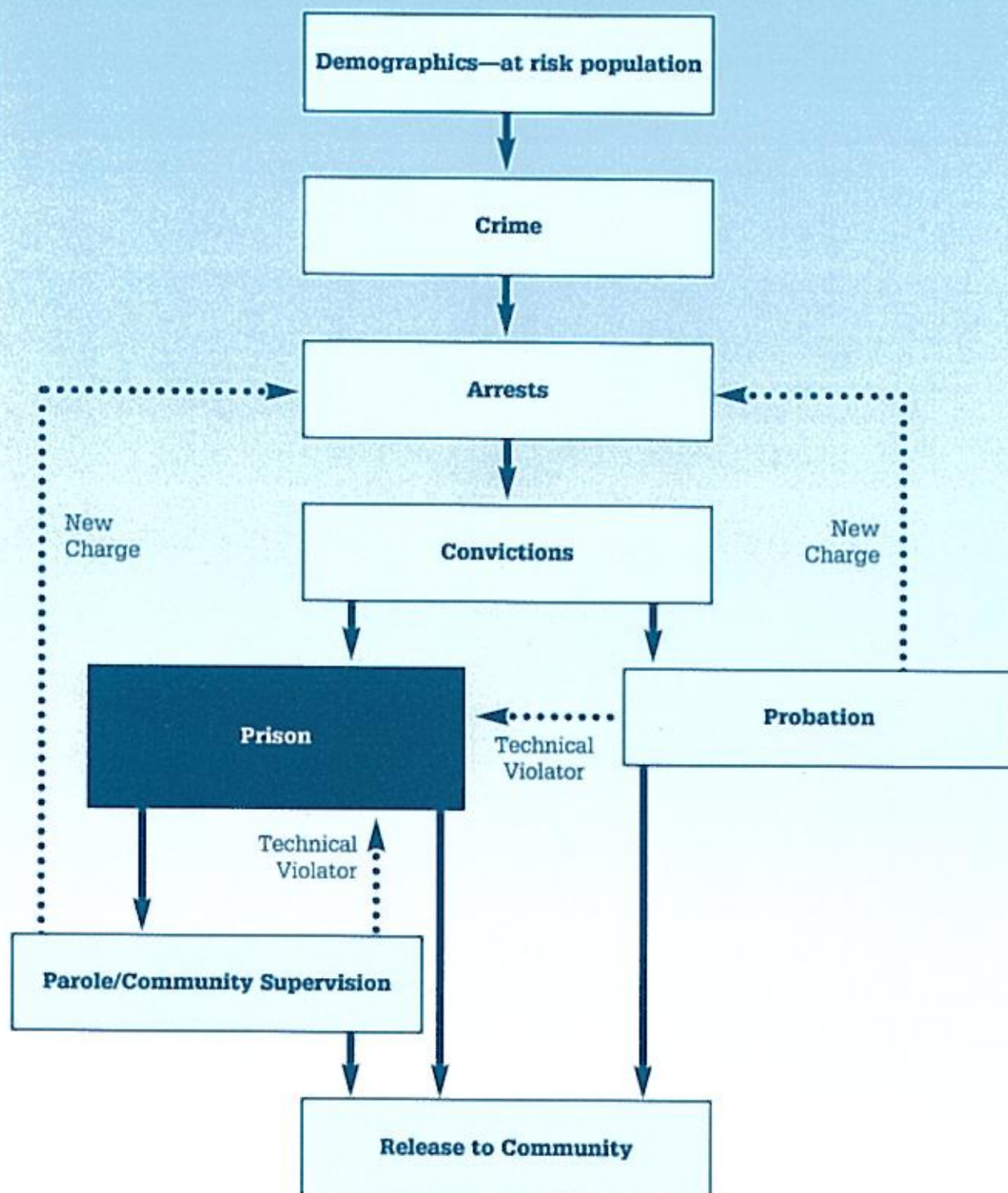
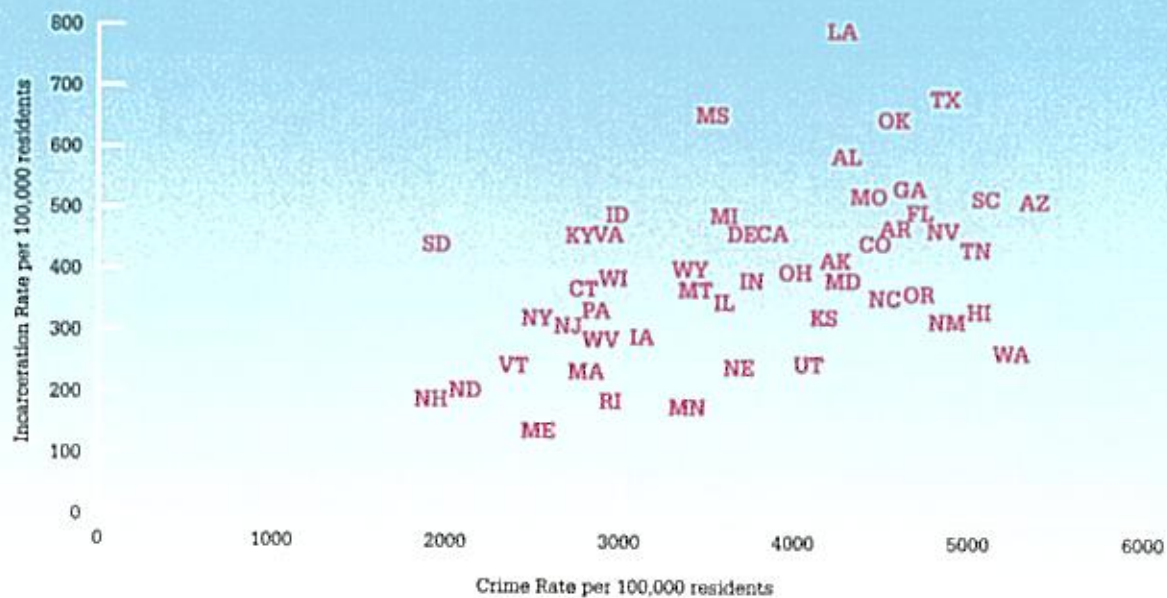


FIGURE 2
Crime and Incarceration Rates by State, 2005



Source: FBI Uniform Crime Report and BJS

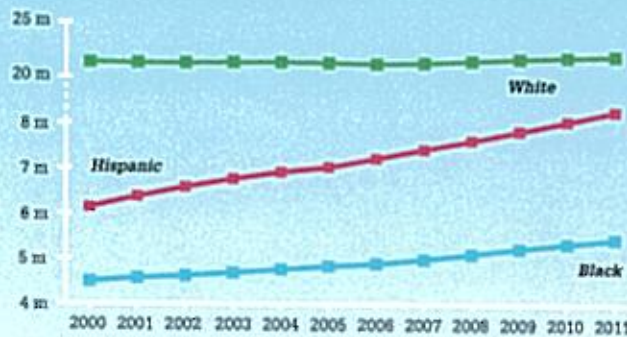
This is known as the “at-risk” population, which generally consists of younger males. The high crime rate ages are 15-25, while the high adult incarceration rate is between the ages of 18 and 35. When the at-risk population is expected to increase in a jurisdiction, one can also expect some additional pressure on criminal justice resources, all things being equal.

Figure 2 shows the association between crime rates (which are produced in part by demographic and socio-economic trends) and incarceration rates. The figure plots the crime and incarceration rates for each state, showing that states with low crime rates tend to have lower incarceration rates. The spread of states up and to the right on the graph shows that states with higher crime rates tend to have high incarceration rates. The last section of this report summarizes what is known about the relationship between crime and incarceration.

It is unfortunate but true that African-Americans and Hispanics have significantly higher arrest and incarceration rates than whites. One must also factor in the extent to which these racial and ethnic groups within these age ranges are also projected to increase. As shown in Figure 3, the number of at-risk African-American and Hispanic males has been increasing over the past few years. States that are projected to have a larger at-risk population over the next decade also are likely to experience continued pressures on criminal justice and correctional resources based on demographic growth.

Internal factors reflect the various decision points within the criminal justice system that cumulatively determine prison admissions and LOS. These decisions begin with police and end with correctional officials who, within the context of the court-imposed sentences, have the authority to release,

FIGURE 3
National At-Risk Population:
Males Between 18-34



Source: U.S. Census Bureau

recommit, give and restore a wide array of good time credits, and offer supervision and services that may reduce recidivism.⁹

For example, one of the most difficult numbers to estimate is the number of prison admissions for the next five years. As suggested by Figure 1, people come to prison for three basic reasons: (1) they have been directly sentenced by the courts to a prison term (new court commitments); (2) they have failed to complete their term of probation and are now being sentenced to prison for a violation of the conditions of their release or new crime; or, (3) they have failed their term of parole (or post-release supervision) and are being returned to prison for a violation of the conditions of their release or new crime. Almost two-thirds of the estimated 600,000-plus people who are admitted to prison are those who have failed to complete probation or parole. A projection model thus should have a “feedback loop” that captures the expected rate of probation and parole failures.

The impact of recently enacted sentencing laws, judicial decisions and other criminal justice policy choices also must be considered in a population forecast. These complex factors also vary from state to state. State and local

criminal justice systems often vest considerable discretion in their public leaders who construct these policies and procedures. A complete understanding of these complex influences is essential to the accuracy of planning and forecasting a prison or jail population.

Micro-simulation Models

Traditionally, prison populations were estimated using time series or trends analysis. This was easy to do since the historic counts were readily available and it required little skill to use such methods. These methods were very inaccurate, however, especially in an environment where policy is very dynamic. Time series models can show only what has already occurred; they cannot estimate future populations based on current or future criminal justice policies and sentencing legislation.

To better account for such a complex and dynamic system, a new generation of micro-simulation models has been developed to help decision makers estimate the effects of current policies and the likely consequences of specific policy proposals. These micro-simulation models are designed to mimic the flow of (1) the current prisoner population, and (2) the expected new admissions over the projection horizon based on these internal factors. Based on stochastic entity simulation methods, the models mimic the actual flow of the correctional system *based on current and future probabilities* of being admitted to prison under a particular legal status, with a certain sentence for a certain crime, and being released at a certain time based on probabilities of receiving good time and being released on parole. Similarly, each person released to probation or parole has a certain probability of being revoked for a new crime or technical violation and being returned to prison for a certain period of time before being re-released. All of

these “probabilities” are based on the current behavior of the decision makers.

Accuracy of the Projection Models

A recurring question about any projection model is its accuracy. In one sense this is the wrong question to ask, since a forecast of any correctional system is predicated upon the assumptions of future criminal justice policy. Because such policies are constantly in flux, the projection must be modified as lawmakers adopt new policies and correctional officials adjust their administrative procedures. For example, if a parole board implements new parole guidelines that serve to increase the rate of parole for low-risk prisoners from 35 percent to 50 percent, the projection model's parole grant rates must be similarly adjusted and thus show a lower forecast. If the legislature adopts a longer sentencing range for drug dealers that is not retroactive to the current prisoner population, the new admission stream must be altered and will show a higher projection.

Despite the nuances of the dynamic policy arena, the models must demonstrate that they would be accurate if policies remain constant. The micro-simulation models are especially adept in this regard if they are designed to model both the current and future correctional populations. For the first 12 to 18 months of a projection, the current parole and prison populations have a large influence on the forecast since it takes that long for large numbers of that population to exit. Further, the micro-simulation models are loaded with the most current data to reflect current practices and are then “started” several months in the past to see if they are mimicking actual monthly counts of admissions, releases and populations. Only when this test has been successful is the forecast deemed “accurate.”

Time series or regression models are not able to employ such techniques and thus are less able to demonstrate their accuracy. Moreover, because they are based on historical patterns that do not account for contemporary policies or laws, they often either over- or underestimate short-term developments.

Figures 4 and 5 highlight recent accuracy analyses for West Virginia and Nevada, both of which employ simulation models. West Virginia reflects a fairly stable policy environment, so the 2004 projection has been quite accurate for the past two years. Conversely, the Nevada estimate issued in March 2005 began to display an underestimate in fall 2005. This was caused by a significant and unexpected surge in new court commitments, largely from the Las Vegas metropolitan area. The model's new court intake estimates were then adjusted with the assumption that new admissions would continue to grow at the 2006 rather than the 2005 rate. As shown in the graph, this single change in the new admission assumption increased the 10-year forecast by over 900 prisoners.

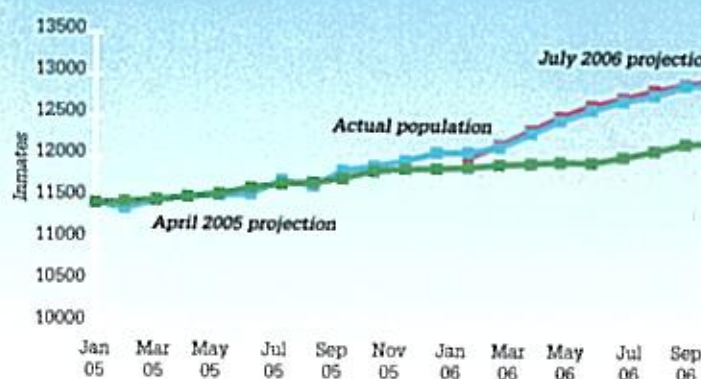


FIGURE 4
Accurate Projections: West Virginia, 2004-2006



Source: JFA Institute

FIGURE 5
Projections Responding to Change: Nevada, 2005-2006



Source: JFA Institute

The level of accuracy raises the issue of under- and overestimates. It is fair to say that correctional officials are more fearful of an underestimate, which may lead to crowding and perhaps a more dangerous prison environment. Overestimates typically pose little operational problem to prison officials who may welcome a surplus of vacant prison beds or at least a reduction in existing crowding. However, overestimates are viewed with disdain by some state fiscal analysts, who may feel (rightly or wrongly) that the projections were manipulated by the prison agency to secure extra, unneeded funding.

Two of the most significant examples of overestimates occurred in Virginia after it adopted truth-in-sentencing laws and in California after it adopted its “three-strikes” mandatory sentencing laws. The Virginia error resulted in a massive over-construction plan to build prison beds that were not needed. In subsequent years Virginia was able to cancel some of its construction plans and recoup some of its losses by renting out the surplus prison beds at a profit to states that had crowded systems.

In California, the original estimate was that the “three-strikes” legislation would more than double the inmate population from 121,000 prisoners in 1994 to over 245,000 in 1999. It turned out that the prison population rose to 160,000. The estimate was off by a staggering 85,000 inmates. The primary source of the error was an assumption that all criminal cases that fit the criteria for either a second- or third-strike sentence would be so prosecuted. In reality, prosecutors used the law to plea bargain a large number of cases to lesser charges. And in several major counties, including San Francisco and Alameda (Oakland), prosecutors rarely applied the law.¹⁰

The lesson for “projectionists” is that they must anticipate adjustments that practitioners will make to new policies that strain their agencies’ capacities or their local community standards. For instance, it can’t be assumed that mandatory sentencing laws will be strictly followed by prosecutors or the courts. For this reason it is useful to discount the estimated effects of such laws.

National Prison Population Projection Estimates

To make an estimate of the U.S. prison population, the researchers for this report contacted each of the 50 states and the federal Bureau of Prisons (BOP) and requested their current official population projections. Where available, projections by gender were also requested.

The BOP and 42 states provided at least a five-year prison population forecast. These reporting jurisdictions accounted for 92 percent of the national prison population as of 2005. For the remaining eight states, researchers made estimates based on current population trends and extrapolated for five years.¹¹

Figures 6 and 7 provide the national and regional estimates based on the data received from the states and the BOP and the estimates for states with no official projection. Detailed tables for each state are shown in the appendix. The national and state estimates reveal the following major trends:

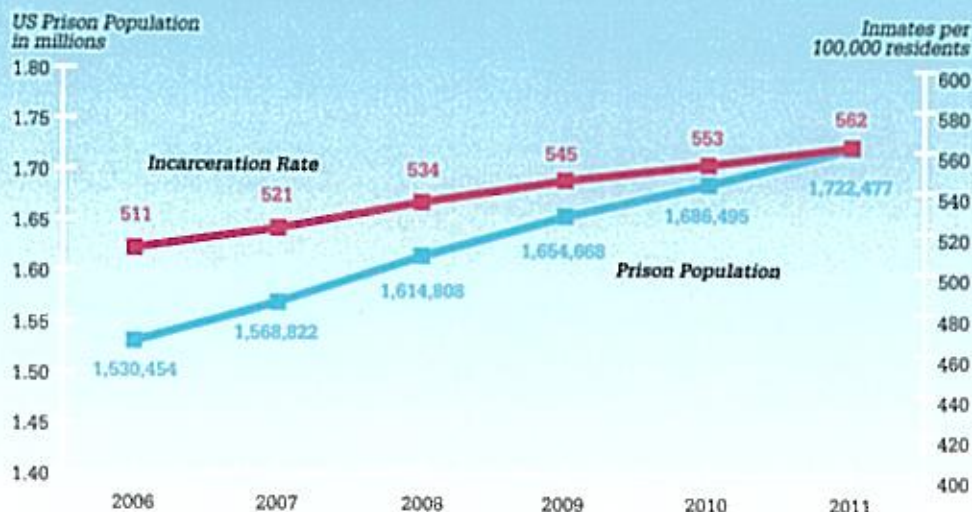
1. The nation's state and federal prison population will reach 1,722,477 by 2011—an increase of approximately 192,000 over a five-year period.
2. This rate of growth—about 38,400 more inmates per year—is markedly higher than the growth rate of the past three years.
3. The prison incarceration rate will continue to grow, from 491 per 100,000 U.S. residents in 2005 to 511 per 100,000 in 2006, then to 562 per 100,000 in 2011.

4. The Western region will have the largest prison population increase (18 percent) while the Northeast will experience the smallest growth (7 percent).
5. There is considerable variation among the states. Montana, Alaska, Arizona, Idaho, Vermont and Colorado all are poised to grow by more than 30 percent under current criminal justice policies. Conversely, Connecticut, Delaware, New York and Maryland are expected to have little if any growth.
6. Four states—Florida, California, Arizona and Texas—and the federal prison system will account for more than 87,000 additional prisoners, or about 45 percent of the total prison population increase.

In reviewing these trends and discussing them with the states, researchers learned that a wide array of factors were influencing these estimates. For a number of Southern and Western states, demographic growth, particularly for the at-risk population, was a major concern. This was especially true in Arizona, Nevada and Texas, all of which have recently increased their prison population estimates because of increases in prison admissions for new court sentences or probation revocations. However, incarceration rates in all three states will grow, meaning that

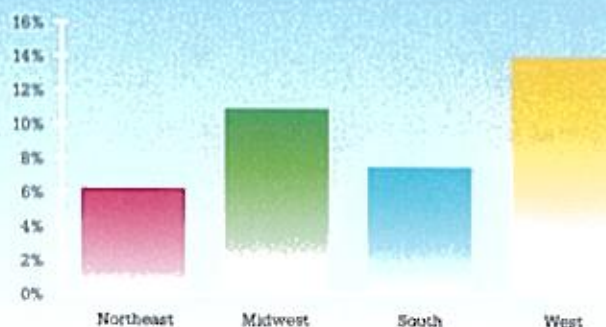
By 2011, America's prison population is projected to increase by 192,000 to over 1.7 million inmates. One in every 178 U.S. residents will live in prison.

FIGURE 6:
Projected National Prison Population and Incarceration Rate, 2006-2011



Source: JFA Institute

FIGURE 7
Projected Change in Regional Incarceration Rates, 2006-2011



Source: JFA Institute

the greater prison admissions or longer LOS, or both, are causing the prisons to grow faster than the general population. In these and other states, state officials reported that the cumulative effects of lengthy mandatory prison terms adopted in the 1980s and 1990s, reduced parole grant rates, and high numbers of parole and probation violators—coupled with an

inability to reduce recidivism rates—all contributed to the higher projections.

A region-by-region summary of the estimates and factors that underpin the estimated growth follows. But before proceeding to these regional variations, a number of other policy-related issues merit discussion. These issues emerged during researchers' interviews with state

correctional officials and planners who are directly involved in the states' forecasts.

Growth of Women Prisoners Will Continue to Outpace Males

The female prisoner population, while well below the size of the male prisoner population, has been growing at a faster rate for many years. The Bureau of Justice Statistics (BJS), part of the U.S. Department of Justice, notes in its most recent prison population report that the female population has grown by 57 percent since 1995, compared to a 34-percent increase for males.¹²

For this forecast, 25 states, covering only about one-third of the national prison population, were able to provide their projections by gender. In these 25 states, females are expected to grow at a faster rate (16 percent) than males (12 percent). Researchers' interviews with other state correctional officials suggest that higher female growth rates are likely to continue in the other states as well.

Disaggregating in this manner is desirable because women have unique security and programmatic needs that may not be met if the size of the female population is not properly estimated. For example, women are typically housed in much lower-security-level facilities than men and require a lower staff-to-inmate ratio. The construction of female facilities is increasingly designed to meet the unique custody and service needs of women. Also, because the female prison population has risen faster for the past decade, failure to perform separate forecasts by gender could distort growth estimates for women prisoners.

In addition, females generally pose a significantly lower risk to public safety than males. BJS studies of female recidivism rates have consistently shown that women have a lower recidivism rate than males and are far less likely to commit a violent or sex crime upon release.¹³ The disproportionate increases in the female prison population, then, are somewhat ironic.

Age of Inmates (and the Cost of Their Medical Care) is Expected to Rise

BJS reports that the average age of prisoners being released to parole has increased from 31 to 34 between 1990 and 1999.¹⁴ There are no more recent national data, and states were not able to provide prisoner age projections for this report, but policy experts and state officials are concerned that the aging trend will accelerate largely because of the longer prison terms being served under various sentencing and release laws and policies. This presents a major fiscal concern for states, because as the prison population ages, the medical costs of the corrections system are expected to rise accordingly.

Corrections Workforce Recruitment and Retention is a Growing Concern

As their prison populations increase, states need to find qualified applicants for correctional officer positions and other prison jobs. Many of the state officials contacted for this report expressed concern that even if they can secure the necessary funding to build and operate an expanded prison system, it will be increasingly difficult to find qualified workers to fill these positions. These officials already face a high turnover rate and a growing number of “baby boomer” employees now nearing retirement. A number of Southern states (especially Louisiana, Mississippi and Alabama) are hoping to increase salary levels to attract and retain qualified staff to work in prisons that are often located in economically depressed rural areas. Such increased salaries will carry an obvious fiscal burden for state governments.

Methamphetamine-related Cases are on the Rise

Many states are seeing significant growth in prison admissions related to methamphetamine addiction. In Georgia, for example, meth-related admissions more than tripled, from 977 inmates in fiscal years 1999 and 2000 to 3,579 in fiscal years 2004 and 2005. With meth offenders currently serving an average of 5.5 years in prison, officials estimate that the cumulative cost of housing these inmates alone will exceed \$340 million.¹⁵

The rise of meth cases is not readily reflected in the current forecast, but correctional officials have become increasingly concerned that larger proportions of the probation and parole populations are using the drug and thereby increasing the likelihood of probation

and parole revocations. To control the problem and its impact on prisons, many correctional officials are calling for more community-based treatment beds and wider adoption of evidence-based practices for treating meth abusers.

Impact of Enhanced Sex Offender Sentences Will Be Felt Beyond Five Years

Many states have recently passed sentencing laws for sex offenders that require a lengthier period of incarceration and/or a lengthier and more intense period of parole supervision. One example is California, which under the recently passed Proposition 83 requires sex offenders to be tracked electronically for life. This law will no doubt increase the number of parolees returned to prison for technical violations. In Kansas, a law enacted in 2006 will result in approximately 150 persons convicted of child sex crimes being sentenced to prison for terms approximately 16 years longer than under earlier sentencing practices.

The current five-year state projections do not reflect the long-term effects of such laws. The laws typically are not retroactive, and because many of these offenders already spend longer than five years behind bars, the impact of the longer sentences will not be felt on populations and budgets for some time beyond the next five years. Over the next two decades, however, one can expect the number of prisoners convicted of sex crimes to expand rapidly.



Regional and State Trends

Northeastern Region

The Northeast historically has the lowest incarceration rates, which will continue to be true well into the next decade. Led by New York, Massachusetts, New Jersey and Connecticut, these states are estimating little if any growth. Part of the explanation for this trend is demographic, as this region is estimated to grow slowly. Crime rates also are relatively low. The stability of incarceration rates results from more than demography and crime rates, however; states also have adopted new policies that have controlled prison population growth. In both Massachusetts and New Jersey, for example, parole grant rates have increased while state leaders have resisted calls to increase sentencing lengths.

Connecticut may provide one of the most striking and successful examples of policy intervention. Using data-driven analyses, Connecticut policy makers identified that parole and probation violators were driving much of the prison growth. They passed legislation in 2004 that set a goal of reducing parole and probation revocations by 20 percent, and hired 96 new probation officers, reducing caseloads from approximately 160 cases per officer in January 2004 to approximately 100 cases per officer in June 2005.

As part of a "justice reinvestment" strategy, Connecticut redirected \$13 million of the expected savings from those reforms into

recidivism reduction initiatives. They funded two programs targeting violators, and required the development of a comprehensive re-entry plan, with focus on the specific neighborhoods to which most prisoners were returning.

Within two years following the development and adoption of this strategy, Connecticut went from having one of the fastest-growing prison populations in the nation to experiencing a decline steeper than almost any other state. Crime rates in Connecticut also dropped during this period, faster than they were falling in the nation overall.

Another big story in the Northeast has been New York, where the prison population has declined from a peak of 72,889 in 1999 to its current level of about 63,000. Virtually all of this historic decline has resulted from dramatic reductions both in serious crime and in the number of felony arrests, much of which can be linked to the well-known reforms within the New York City police department.¹⁵ Indeed, admissions to state prison from New York City fell from 20,580 in 1993 to 8,490 in 2005. While the state has not issued a formal prison population forecast, the most recent trends show no reason to expect significant increases over the next five years.

Change in five-year projected state prison populations varies radically, from no growth in New York, Delaware and Connecticut to 41 percent growth in Montana.



Midwestern Region

The prison population of the Midwest continues to grow, primarily as a result of increases in prison admissions from both new court admissions and parole violations. In some states the long-term effects of truth-in-sentencing laws that were enacted more than a decade ago are now affecting lengths of stay. In Illinois, for example, prison admissions have increased every year, with the system thus setting new highs annually. Parole violation rates are at a record high, and policy makers have enacted several laws

extending parole terms, especially for sex offenders. Although the Department of Corrections has expanded the programmatic opportunities available to inmates, and linked participation to additional good-conduct credits, these efforts have not offset the impact of sentencing initiatives enacted in Illinois during the late 1990s.

Ohio has been experiencing declining prison populations since 1999 as a result of a sentencing reform initiative. Now the state is experiencing increases because of higher-than-expected prison admissions. A surge in admissions of white females from a number of rural counties has been especially dramatic. Based on these developments, Ohio estimates it will add over 17,000 inmates to its prison population over the next 10 years, a 37-percent increase. The female population will grow at an even faster rate of 47 percent.

Kansas is another Midwestern state that has changed its direction. Between 2003 and 2006, the prison population remained fairly stable. With the passage of new child sex offender legislation and increases in the number of offenders being imprisoned for violating probation, the state's latest forecast shows that the prison population will increase from approximately 9,000 to 11,231 by 2016. These projections would be even higher were it not for recent legislative actions and correctional policy changes that will hold technical parole violators accountable with graduated sanctions prior to returning them to prison.

Iowa provides an interesting example of a state in which the prison population is projected to grow, but at a slower rate than other Midwestern states. There have been fewer new court commitments for the state in recent years, although that has been somewhat offset by higher rates of probation

TABLE 2
Ohio 10-Year Prison Population Projections,
2007–2016

Date	Male	Female	Total
2006	43,965	3,554	47,519
2007	45,485	3,726	49,211
2008	47,563	3,985	51,548
2009	49,354	4,249	53,603
2010	50,889	4,416	55,305
2011	52,625	4,598	57,223
2012	53,832	4,699	58,531
2013	55,384	4,802	60,186
2014	56,941	4,914	61,855
2015	58,184	5,088	63,272
2016	59,756	5,214	64,970
% Change	36%	47%	37%

Note: 2006 figure is the actual population as of 10/2/06.

and community supervision (parole) admissions. To control its prison population, Iowa also relaxed its truth-in-sentencing laws, dropping its requirement of time served from 85 percent to 70 percent, and increased the number of paroles. As a result of these changes, Iowa's growth rate is projected to be low for the next five years. The long-term estimates are higher,

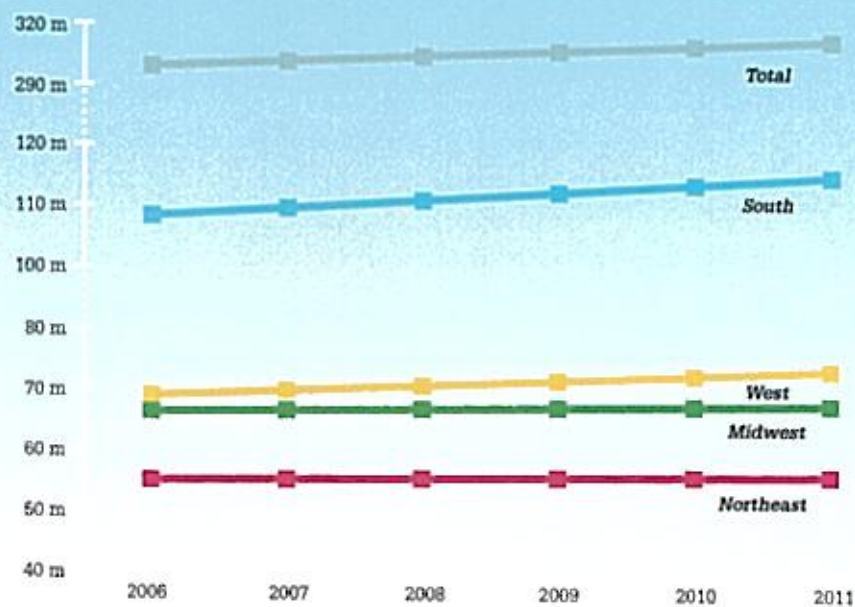
however, because of the long-term effects of other decisions the state has made, such as abolishing or restricting parole for certain crimes and increasing sentences for sex offenders. Iowa estimates its prison population will rise from 8,737 in 2005 to 11,240 in 2015. As in Ohio, the female population is projected to grow faster than the male population.

Southern Region

The Southern states traditionally have had the highest rates of incarceration, and that will continue to be the case. Figure 8 shows the projected populations of the four regions, with the South having the greatest projected growth. Yet the forecast shows Southern states moving in different directions over the next five years.

Some Southern states, such as Texas, Florida, Georgia, South Carolina and West Virginia, are projecting significant increases. Texas,

FIGURE 8
Projected Year-End Resident Population
by Region, 2006-2011



Source: JFA Institute

which has one of the largest state prison populations, is estimated to grow by an additional 13,656 prisoners over the next five years. Florida, another large state, will incarcerate more than 100,000 people by 2011. At the same time, Maryland and Delaware have stable population trends. These states have been very active in adopting a variety of reforms designed to control prison population growth.

Texas's prison system will continue to grow in part because of simple demographics: the state is expected to grow by more than 2.3 million residents over the next five years, for a total population of over 25 million. However, its incarceration rate is projected to grow as well, the result primarily of low parole grant rates and a high number of probation revocations. Texas policy makers have begun to evaluate

By 2011, the imprisonment rate of the South will exceed that of the Northeast by 85 percent.

TABLE 3
Nevada 10-Year Prison Population Projections,
2007–2016

Year	Male Population	Female Population	Total Population
2005	11,075	1,008	12,083
July 2006	11,662	1,134	12,796
2006	12,081	1,158	13,239
2007	12,496	1,236	13,732
2008	12,984	1,305	14,289
2009	13,727	1,402	15,129
2010	14,378	1,484	15,862
2011	15,188	1,576	16,764
2012	15,935	1,657	17,592
2013	16,727	1,755	18,482
2014	17,515	1,849	19,364
2015	18,243	1,957	20,200
2016	19,066	2,057	21,123
Numeric Change 2006 – 2016	6,985	899	7,884
Percent Change 2006 – 2016	57.8%	77.6%	59.6%

Note: Numbers represent end of calendar-year figures (with the exception of the July 2006 figure, which represents the July 31, 2006, population). Year 2006 and July 2006 rows show actual population figures.

TABLE 4
Arizona 10-Year Prison Population Projections,
2007–2016

Year	Male Population	Female Population	Total Population
2005	30,626	2,909	33,535
July 2006	31,837	3,062	34,899
2006	32,415	3,228	35,965
2007	34,814	3,375	38,189
2008	36,958	3,687	40,645
2009	39,672	3,942	43,614
2010	42,182	4,210	46,392
2011	43,933	4,388	48,381
2012	45,834	4,557	50,391
2013	47,243	4,812	52,055
2014	48,650	4,980	53,630
2015	49,841	5,054	54,895
2016	51,008	5,216	56,224
Numeric Change 2006 – 2016	19,171	2,154	21,325
Percent Change 2006 – 2016	60.2%	70.3%	61.1%

Note: Numbers represent end of calendar year figures (with the exception of the July 2006 figure, which represents the July 31, 2006, population). Year 2006 and July 2006 rows show actual population figures.

changes on both fronts to help slow the anticipated growth. The state parole board is analyzing its compliance with parole guidelines and may change its decision-making criteria. And in their 2007 session, Texas lawmakers are expected to consider major policy initiatives to reform probation, increase intermediate sanctions and expand treatment capacity in the correctional system.

In Louisiana, partly in response to the devastation caused by hurricanes Katrina and Rita, the state legislature passed several bills designed to reduce the length of incarceration modestly by granting more good time to prisoners who complete treatment programs and have satisfactory work conduct records. The state has also enacted a law limiting to 90 days the amount of time a probation or parole technical violator can serve in prison for a first revocation. Louisiana also is launching a number of reforms to expedite parole hearings. Its prison population is expected to rise by 4 percent over the next five years.

Maryland and West Virginia have adopted new parole guidelines that increase parole grant rates for low-risk prisoners. The Georgia parole board also relaxed its self-imposed rule that required certain offenders to serve 90 percent of sentence, allowing some inmates in that group to be considered for earlier release. Maryland also enacted new parole hearing procedures to ensure that prisoners who are being granted parole are actually released when they become eligible. In addition, the Maryland parole board adopted narrower length-of-stay ranges to reduce how long some offenders are incarcerated before being paroled.

Western Region

Virtually all of the Western states, with the exception of California and Oregon, will increase their prison populations by 20 percent or more. While Montana will have the greatest percentage increase, Arizona, California and Colorado will see the greatest growth in absolute numbers in the West.

This region's estimated growth is in part the result of demographics. For example, while the U.S. population is expected to grow by approximately 4.5 percent in the next five years, the Western region will increase by 6.4 percent. Arizona and Nevada's populations are expected to increase by a dramatic 13 percent and 14 percent, respectively.

Nevada, which has a mostly discretionary release system, has significantly increased its 10-year forecast, as the state experienced larger-than-expected admissions from the Las Vegas metropolitan area. Despite efforts to counteract this surge through a higher parole grant rate, Nevada is now poised to house one of the fastest-growing prisoner populations in the nation. Its prison population is projected to increase from about 13,200 in 2006 to over 21,000 by 2016 (see Table 3). As in other states, the female population is expected to increase at a faster rate than the male population.

Arizona is a determinate sentencing state with an 85-percent truth-in-sentencing law for all prisoners, giving it little short-term flexibility to moderate inmates' length of sentence and temper its growth. The recently passed Proposition 301 negates the mandatory probation provision in the criminal code for first- and second-offense drug possession for methamphetamine offenses. Further, the Maricopa County Attorney's Office recently announced a new policy to disallow pleas to

probation for repeat offenders, with a few specified exceptions. This collection of varied trends and developments could make Arizona a leader in prison growth. As shown in Table 4, the 10-year forecast shows the state's prison population increasing to 56,224.

California also is a determinate state with no discretionary parole. However, it actually lowered its fall 2006 population projection from its spring 2006 estimate because of lower-than-expected growth in new court commitments. The long-term estimate is for continued growth, because of both population increases in the at-risk age cohort and the cumulative effects of the state's two- and three-strikes legislation. The state also returns an extremely high number of released inmates to prison, especially for violations of their terms of supervision. These ominous trends have led Governor Arnold Schwarzenegger to propose reducing or eliminating formal parole supervision for low-risk offenders and establishing a sentencing commission.

Arizona's prison population is projected to increase by more than 60 percent over the next decade.



Estimating Current and Future Prison Costs

In addition to forecasting the national prison population over the next five years, this report estimates the additional fiscal costs of the expanding state and federal prison systems. Based on calculations described in detail below, researchers estimate that prison operating costs will increase by at least \$2.5 billion per year to as much as \$5 billion per year by 2011. The price of building new prison beds could reach \$12.5 billion. In sum, the

estimated 192,000 new prisoners could cost as much as \$27.5 billion over the next five years.

The cost of a prison system is traditionally separated into two broad categories:

operational and *capital*. Operational costs reflect the day-to-day expenses of operating a correctional facility, including the central office and support services surrounding that facility. While the largest component of operational costs is personnel (salary and fringe benefits), this category also reflects items such as utilities, food, office and medical supplies, communication services, transportation, program services and a variety of contracted support services such as electrical, building maintenance and information technology.

Capital costs are generally limited to one-time purchases of land, construction of new

buildings, renovation of existing structures and equipment. Unlike operating costs, capital expenditures can fluctuate dramatically from year to year depending on decisions to build or not build new facilities. For example, it may require at least five years to open a new prison once a state has decided to build one. A significant amount of time is needed to identify an appropriate site, develop the necessary architectural plans, prepare the site for construction and secure the necessary building permits from state and local authorities. The actual construction can often take two years with the normal delays incident to any construction schedule. The costs associated with a construction project can show up during the fiscal year in which the funds were authorized or be recorded as costs are incurred.

Since 1984, the U.S. Department of Justice has conducted periodic cost analyses for each state and the District of Columbia; the most recent study was published in 2004 and used 2001 figures.¹⁷ At that time, it was reported that state correctional agencies spent \$29.5 billion on correctional facilities, with \$28.4 billion spent on operating expenses and \$1.1 billion on capital costs. (Approximately two-thirds of the operating costs were linked to salaries and fringe benefits.) With 1,252,743 prisoners in custody in 2001, the average (mean) annual cost per prisoner was \$22,650.

The U.S. may need an additional \$27.5 billion over the next five years to accommodate projected prison expansion and operations.

Looking back, a comparison suggests that the costs per prisoner stabilized between 1996 and 2001. The 1996 cost analysis found that the average cost per inmate had steadily increased from \$16,300 in 1984 to \$18,400 in 1990 and \$20,100 in 1996, using constant 1996 dollars. In its more recent report, BJS noted that when adjusted for inflation, the 1996 cost per prisoner in 2001 dollars was \$22,515, which was only slightly below the actual 2001 figure of \$22,650.

Just as incarceration rates themselves vary widely by state, the 2001 BJS report found considerable variation among state operating costs. The most expensive prison systems tended to be in the Northeast region (\$33,037 per prisoner per year) and the least expensive were in the Southern region (\$16,479). The least expensive states were Alabama (\$8,128), Mississippi (\$12,795), Missouri (\$12,867), Louisiana (\$12,951) and Texas (\$13,808)—the same states that tended to have the highest incarceration rates. The most expensive states were Maine (\$44,379), Rhode Island (\$38,503), Massachusetts (\$37,718), Minnesota (\$36,836), New York (\$36,835), Alaska (\$36,730), and Oregon (\$36,060).

While wages and benefits account for much of the variation among the states, the other key factor is the inmate-to-staff ratio. The BJS report showed that Maine had the lowest inmate per staff ratio (1.7 inmates per employee), while Alabama had the highest (6.8). Lower numbers of correctional officers per inmates can reduce costs but also raise risks to the safety of staff and inmates.

Methodological Issues

A number of methodological challenges make estimating future prison costs problematic. Several approaches are available, but each must be sensitive to the following issues.

1. Regional and State Variation in Costs. As noted above, there is considerable variation across the regions and even among the states within a region. If one region or only certain states from certain regions are experiencing the bulk of the increases, the cost estimates must account for these regional and state variations.

2. Marginal Versus "Fully Loaded" Operational Costs. An increase or decrease in a state prison population will not yield a direct, proportionate increase or decrease in operating costs.¹⁸ This is because some states whose prison populations may grow by only a small amount likely will absorb that growth in existing facilities and with current staff. They would experience only marginal cost increases for medical care and daily costs such as water, food, electricity and gas.

3. Tipping Point Effects. Related to the marginal cost issue is the possibility that a very small increase in a state's prison population could trigger a major increase in costs per prisoner. This could result if in the past an agency has been using controlled crowding measures to control costs. However, at some "tipping" point a modest increase in the prison population may result in a decision to construct and staff one or more new prisons. This in turn would significantly increase the cost-per-inmate figure.

4. Differences in Cost-containment Approaches Adopted by the States. States use very different approaches to reduce or control their costs for a growing prison system. Some contract with private prisons or local jails, while others simply start reducing programs and converting program space to housing units. Because each state will approach its growth situation differently, it would be useful to identify those approaches and make the appropriate adjustments.

Prison beds each cost between \$25,000 and \$100,000 to build, depending on inmate security level.